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Securing cables through desk holes with customizable locations and sizes

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Securing cables through desk holes with customizable locations and sizes

ABSTRACT

This disclosure describes techniques to create cable holes located anywhere on a desk, with openings customizable to pass through cables with large end-connectors. The lid of the hole is seamlessly closed such that it is flush with the desk surface and passes just the cable. A clean desk is thus provided, with minimal cable clutter and without cables running all the way to the edges. Cables can be run just where needed.

KEYWORDS

- Computer cable
- Desk grommet
- Cable clutter
- Cable organizer
- Customizable desk hole

BACKGROUND

Many desks have two-to-three inch holes, typically towards their rear edges or corners, covered with grommets that enable the installation of cables. The problem with these are twofold: location and visual impact. Their rear-edge location requires cables to run the width and partial length of the desk before entering the hole. The size and design of the holes and grommets make for an unsightly interruption of the surface of the desk.

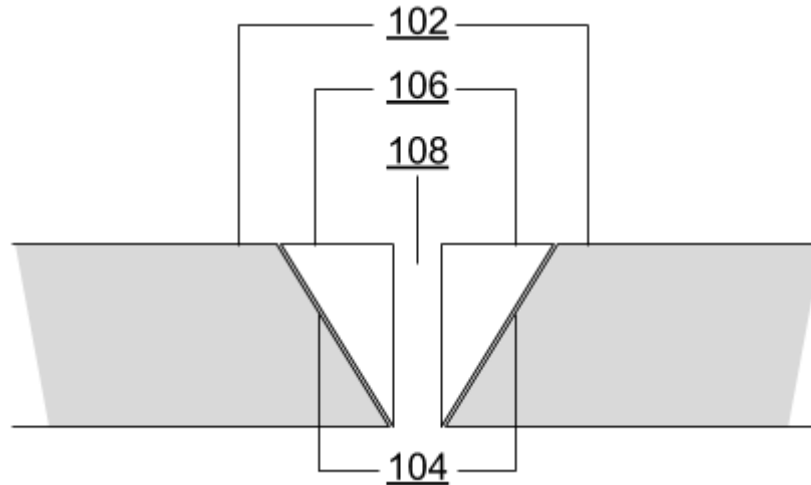
DESCRIPTION

Fig. 1: Sectional view of conical desk hole and grommet

Fig. 1 illustrates a sectional view of a desk hole and grommet, per the techniques of this disclosure. A truncated conical hole (104) is made at a convenient location on a desk (102). The hole is fit snugly with a male grommet plug (106) that has a hole (108) of customizable diameter. A cable can pass through the grommet plug in a manner convenient to the user, e.g., the cable can pass through in a tight, immovable fit, or in a loose fit that allows travel.

The truncated conical desk hole has a smaller diameter at the bottom and a larger diameter at the top. The angle of the cone can be greater than sixty degrees to avoid binding the plug. The hole can be drilled with a suitable, custom, cone-shaped drill bit with a stop-section added to prevent over-drilling at the top surface of the desk. The top surface of the desk can also be protected by a template piece with a hole that also serves as a guide.

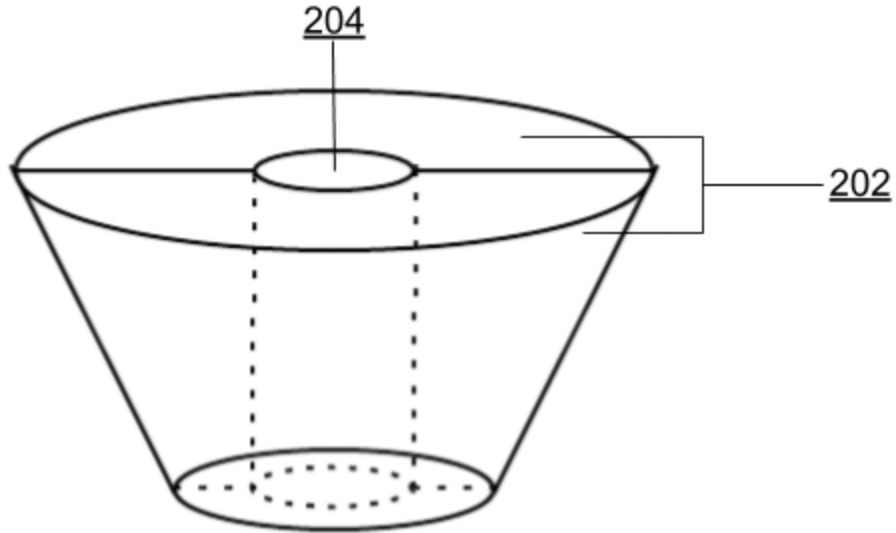


Fig. 2: Grommet plug with hole in the middle

Fig. 2 illustrates the grommet plug, per techniques of this disclosure. The plug comprises two halves (202) that form a truncated cone with a hole (204) in the middle. The plug fits the desk hole. Manufacture of the constituent pieces of the plug can be on a lathe (two cones per plug), followed by drilling of the center hole in a gig, followed by a cutting step that discards the side with the kerf.

Small magnets can be installed in pairs to enable mating of the two halves of the cone. To install the magnets, two holes are drilled in each half of the cone, and magnets of correct north-south pole orientation inserted therein. Alternatively, the cone pieces can be manufactured using injection molding or 3D printing.

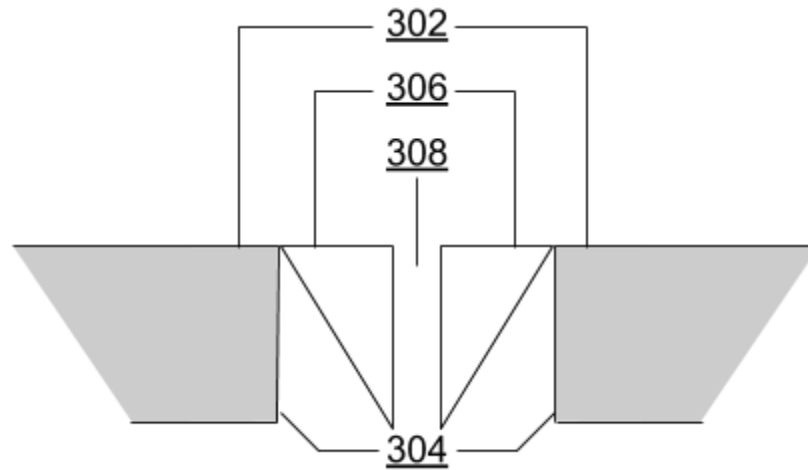


Fig. 3: Sectional view of cylindrical desk hole with conical grommet

Fig. 3 illustrates, in sectional view, an alternative implementation. A cylindrical hole (304), e.g., having diameter two-and-a-half to three inches, is made at a convenient location on a desk (302). The hole is fit snugly with a female conical grommet plug (306) that has a hole (308) of customizable diameter. The conical grommet plug is of a fixed height that can be shimmed to adjust from the bottom of the desk. Alternately, the conical plug can be threaded on the outside and the mating plug threaded on the inside, thereby enabling the adjustment of the height of the plug.

In either case, cylindrical desk hole or conical desk hole, the cable is run through the grommet hole. The grommet plug is installed around the cable, inserted into the desk hole, and tightened around the cable to achieve a convenient fit. Since the size of the central grommet hole is variable, its fit to the cable can be adjusted in a manner specified by the user. For example, the fit can be tight and immovable, or it can be a loose fit that allows travel. Once installed, the plug is immovable from the top and seamlessly merges with the desk surface.

CONCLUSION

This disclosure describes techniques to create cable holes located anywhere on a desk, with openings customizable to pass through cables with large end-connectors. The lid of the hole is seamlessly closed such that it is flush with the desk surface and passes just the cable. A clean desk is thus provided, with minimal cable clutter and without cables running all the way to the edges. Cables can be run just where needed.

REFERENCES

[1] Cable Organizer, <https://www.cableorganizer.com/grommets/> accessed on Aug. 22, 2019.